Activities Report
for the period 2002 -2004

Associate Professor G. Vouros
Head of the Department

Assistant Professor C. Lambrinoudakis

Mrs Christina Maria Polikreti

October 2004
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1. Introduction

Technologies of Information and Communication Systems cause a world-wide revolution which is as much important (if not more important) and extended as the industrial and other technological revolutions made in the past. Even if new technologies invade in all the sectors of the human activity, this new revolution is still in its infancy and the technologies developed in our days are far from being mature. New trends and visions arise, making the scientific sector of Information and Communication Systems the most dynamic and fast changing sector of modern science and technology.

According to our view and interests, new trends comprise the development of intelligent systems that perform their functions with security and reliability, cooperating among themselves, being embedded in devices and infrastructures without making their existence perceivable, servicing people needs and further support and empowering them to advance their creative activities either in their professional or in personal and societal activities.

Technological advances and advanced methods for storing, organizing and exploiting available information, are the new weapons in the front line of business’s competitiveness. In this technological framework and timing, information and communication systems engineers’ role requires high-level education of the information and communication technologies, communication and team-working skills of interdisciplinary nature, in conjunction with high-level technical skills.

In this new age, where the vision towards a European Information Society drives our scientific activities for overcoming the technical, societal and economical buriers towards building National, European and World-wide information infrastructures, in this age, the design, development and management of advanced, human-centered information systems is an essential need for all.

The operation of the department of Information and Communication Systems Engineering, founded back in 1998, has been tuned along these lines. This report covers its educational and research activities for the period 2002 – 2004.

Prof George A. Vouros
Head of the Department
2. Infrastructure

2.1 Faculty

The following graph shows the number of people in the department's academic staff per gradation and total, from 2002 to 2004.

![Graph showing the number of people in the department's academic staff per gradation and total, from 2002 to 2004.]

The department's academic staff, the technical laboratory personnel, as well as the PhD students of the academic year of 2004-2005, are listed in the following tables.

<table>
<thead>
<tr>
<th>Academic Staff</th>
<th>Name</th>
<th>Specialty</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Professors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G.Flessas</td>
<td></td>
<td>Ordinary Differential Equations</td>
</tr>
<tr>
<td>A. Hliadis</td>
<td></td>
<td>Telecommunication Systems Technologies and Applications</td>
</tr>
<tr>
<td>S.Katsikas</td>
<td></td>
<td>Computer Science</td>
</tr>
<tr>
<td><strong>Associate Professors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S. Cotsakis</td>
<td></td>
<td>Mathematical Physics - Cosmology</td>
</tr>
<tr>
<td>G.Vouros</td>
<td></td>
<td>Knowledge Representation – Expert Systems</td>
</tr>
<tr>
<td>S.Gritzalis</td>
<td></td>
<td>Information and Communication Systems Security</td>
</tr>
<tr>
<td><strong>Assistant Professors</strong></td>
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<td></td>
</tr>
<tr>
<td>D. Fotakis</td>
<td></td>
<td>Computation Theory</td>
</tr>
<tr>
<td>C.Lambrinoudakis</td>
<td></td>
<td>Special Purpose Computer Systems – Smart Cards</td>
</tr>
<tr>
<td>E.Loukis</td>
<td></td>
<td>Decision Support Information Systems in Public Administration and Industry</td>
</tr>
<tr>
<td>E.Mitrou</td>
<td></td>
<td>Information Society Regulations and Protection of Personal Data</td>
</tr>
<tr>
<td>A.Rouskas</td>
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<td>Computer Networks</td>
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### Academic Staff

<table>
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<td><strong>Lecturers</strong></td>
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<tr>
<td>S.Kokolakis</td>
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</tr>
<tr>
<td>G.Korrentzas</td>
<td>Computers Networks</td>
</tr>
<tr>
<td>A. Leros</td>
<td>Evaluation Theory Applications</td>
</tr>
<tr>
<td>A. Platis</td>
<td>Performance Evaluation and Reliability of Information and Communication Systems</td>
</tr>
<tr>
<td>K. Stergiou</td>
<td>Artificial Intelligence Knowledge Representation and Management</td>
</tr>
<tr>
<td>T. Tzouramanis</td>
<td>Databases</td>
</tr>
<tr>
<td>D. Vergados</td>
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</tr>
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<td><strong>Instructors</strong></td>
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<tr>
<td>A. Dagiouklas</td>
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<td>H. Skianis</td>
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<td>A. Tsokaros</td>
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<tr>
<td>H. Maglogiannis</td>
<td>Digital Image Recapture and Transmission Technics</td>
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<tr>
<td>I. Anagnostopoulos</td>
<td>Information Retrieval-Administration and Classification</td>
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<tr>
<td>L. Mpouka</td>
<td>Parallel Scientific Computations</td>
</tr>
<tr>
<td>K. Karafosoulis</td>
<td>Physics</td>
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<td>G. Kampourakis</td>
<td>Wireless Networks Security</td>
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<td>K. Raptis</td>
<td>Software Accessories – Distributed Computation</td>
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<tr>
<td>A. Theodorou</td>
<td>Parallel Algorithms, Algorithms and Complexity, Reactive Systems Verification and Composition</td>
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<tr>
<td>I. Athanasakis</td>
<td>PC Networks</td>
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<tr>
<td>E. Stamatatos</td>
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<td>E. Dellis</td>
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<td>E. Kavallieratou</td>
<td>Digital Image Processing – Pattern Recognition</td>
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<tr>
<td>I. Patikakis</td>
<td>Digital Image and Message Processing</td>
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<td><strong>Technical Laboratory Personnel</strong></td>
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<tr>
<td>Christina Theoccharopoulou</td>
<td>Degree in Mathematics, University of the Aegean</td>
</tr>
<tr>
<td>Eyagelos Kourakos-Mauromixalis</td>
<td>Degree in Mathematics, University of the Aegean</td>
</tr>
<tr>
<td>Dimitri Skoutas</td>
<td>Degree in Electrical and Computer Technology Engineering, University of Patras</td>
</tr>
<tr>
<td>Surname</td>
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<td>Tsopelias</td>
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<td>Petros</td>
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<td>Kantzavelou</td>
<td>Ioanna</td>
</tr>
<tr>
<td>Fotiadis</td>
<td>Constantinos</td>
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<td>Kosmopoulos</td>
<td>Athanasios</td>
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<td>Togas</td>
<td>Dimitrios</td>
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<td>Tsigaros</td>
<td>Theologos</td>
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<td>Ioannis</td>
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<td>Ioannis – Dimitrios</td>
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<td>Spyridon</td>
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<td>Tavlaki</td>
<td>Eleni</td>
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<td>Chatzakis</td>
<td>Ilias</td>
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<tr>
<td>Kritikos</td>
<td>Emmanouil</td>
</tr>
<tr>
<td>Pliakas</td>
<td>Thomas</td>
</tr>
</tbody>
</table>
2.2 Administrative and Secretarial Personnel

The following graph shows the number of people in the department's administrative and technical staff per employment type and total, from 2002 to 2004.

![Graph showing administrative staff](image)

The table below shows the number of people in the department's secretarial staff, in the academic year 2004-2005.

<table>
<thead>
<tr>
<th>Secretarial Staff</th>
<th>Name</th>
<th>Specialty</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>E.Papagrigoriou</td>
<td>Department’s Secretary</td>
</tr>
<tr>
<td></td>
<td>M.Loukaki</td>
<td>Secretary of Academic Affairs</td>
</tr>
<tr>
<td></td>
<td>E.Mitropoulou</td>
<td>Vice -Secretary of Academic Affairs</td>
</tr>
</tbody>
</table>

2.3 Building and Technical Equipment

2.3.1 Lecture Rooms and Laboratories

The department of Information and Communication Systems Engineering utilizes six lecture rooms (with capacities: one for 100 students, one for 80 students, two rooms for 50 students each and two other for 48 students each) for the undergraduate courses and one room (with a capacity for 25 students) for the Masters program.
Furthermore, there are four laboratories for the undergraduate courses which are shared with the other two departments of the School of the Aegean Studies (the three of them equipped with 30 personal computers and thus capable to accommodate 40 to 50 students and one laboratory with 20 workstations for the postgraduate students.

PC Labs

From the beginning of year 2002, 5 labs are available, for the Department of Information and Communication Systems Engineering of the School. Though all students of the School have access to these laboratories. These labs are suitable for computational purposes, serving the syllabus of each department, as well as for the use of Internet services (web-surfing, email etc.) by the students of the School.

The bar-chart below displays three facts about the laboratories, in the years 2002, 2003 and 2004.
2.3.2 **Offices**

The following graph shows characteristics of the offices of the academic staff, such as the total number of offices, the total number of the seats per office, and the surface of the rooms.

![Graph of Office Characteristics](image)

2.3.3 **Technical (Hardware – Software – Networks)**

The integrated (voice & data) communication network of the School of Sciences of the University of the Aegean is an advanced Academic Network that provides high quality facilities to support both teaching and research. Very fast access to the Internet (10 Bps Connection) as well as to national and international sources of information is provided for all members of UoA's Academic community.

More than 450 computers have been connected to the network so far, while more than 1900 users have access to the network (Lan Connection or dial up connection). The network is based on structured cabling (UTP Cabling category 5 & fiber optic).

The Network Management Center (NMC) is responsible for the management of this network as well as the promotion of the networking culture among students and staff. It also provides the technical support for the advanced teleteaching infrastructure of the School of Sciences.

**Services Provided**

- Help-desk for the data and voice network of the School of Sciences on a daily basis,
- Dial up access for staff and students
The dial-up service of the School of Sciences was established to provide remote network access to the UoA community, which includes faculty members, graduate and undergraduate students, science and other stuff. Through the service, remote access to the computer systems as well as the Internet is provided telephone directory service

- Maintenance and support of the cabling infrastructure

- Voice Mail Facilities

**Servers Maintained**

- E-mail server (Compaq 3000 Proliant), providing email facilities to every member of the School of Sciences Community

- World Wide Web Server (PC Pentium III 1 GHz). This server contains information for the School of Sciences and its academic departments, phone and e-mail catalog and announcement board.

- Application/File Server (Compaq Proliant 3000 with Windows 2000 Operating System, Sun 3500 with Solaris ver. 8)

**Software & Packages**

Languages and Software tools provided include:

- Microsoft office

- Programming Languages (Microsoft Visual Studio, GNU C++, Pascal, Fortran, Prolog)

- Mathematica, Matlab, Scientific Workplace

- Statistical Packages (SPSS, Splash, Minitab)

- Comnet, Network Simulator
2.3.4 The Library

The library (www.lib.aegean.gr) is located in the renovated "Chatziyiannio" building, which was built in 1903. Organizationally it is a branch of the Central University Library, which is located in Mytilini, Lesvos. The library had a collection of 13,800 book titles until the year of 2002 and 14,608 titles and 22,575 books until now, mostly in the following fields:

1. Mathematics
2. Computers
3. Technology
4. Physical Sciences.

Furthermore, the library collection includes:

1. Literature, essays, documents related with arts, philosophy etc.
2. 180 journal titles in foreign languages and 28 Greek journal titles.
3. Encyclopedias, vocabularies, dictionaries, etc.
4. Access to electronic bases of scientific information, which offer the capability of searching for articles and also of full text retrieval of them
5. Doctoral Theses
6. Multimedia collection of 400 Audio CDs, videotapes, CD-ROMs, audio tapes.

The following bar chart shows the total number of the titles and the books that are included in the Library yearly.
2.4 Students

The department was founded back in 1998, having today 111 undergraduate students, 10 postgraduate students and 16 PhD students, while 31 students of the undergraduate program have graduated during 2003 with average grade “Very Good” (72 / 100) and another 21 during 2004 with average grade “Very Good” (75/100). Also 6 PhD students have graduated so far. The average grade of the postgraduate students is estimated “Very Good” (80 / 100). The following graph shows the students of the department per level of studies in the period 2002 – 2004.

![THE STUDENTS PER LEVEL OF STUDIES](image)

The next two bar charts display student rates per academic personnel and students rates per administrative.
The rate of students per PC was approximately 4 in the year of 2000 and during the academic year 2003-2004 became approximately 2 as the graph shows below.
3. Educational Profile

3.1 Undergraduate Studies

3.1.1 Curriculum

3.1.1.1 Aim and Objectives of the Undergraduate studies Department

The Department of Information and Communication Systems Engineering of the University of the Aegean has as its main objective to develop new knowledge and provide scientists with the high educational background and the creative and critical thinking that will enable them to exploit and further develop the recent Information and Communication Technologies for engineering and managing advanced Information and Communication Systems.

The educational activities within the department, in conjunction with the extended and qualified research activities, aim to the development and dissemination of new theoretical knowledge, methods and techniques concerning Information and Communication Systems Engineering at a National and International level.

3.1.1.2 Preparation Tasks - Background

The department of Information and Communications Systems Engineering has recognized the importance of the diversity of skills, which have arisen from the traditional electrical engineering and informatics course backgrounds. The vast majority of employees in the ICT industry need a different focus. Their major activities include the development of application oriented solutions; implementation, management and support of ICT systems; ICT selling and consultancy. The majority of graduates increasingly need a combined qualification from both the engineering and informatics cultures as well as from other related disciplines such as business and behavioral skills. Currently, Europe faces a large shortage of skilled personnel in the areas of Information and Communication Technologies. This shortage is come to be known as the “skills gap”.

Taking into account the above facts, the situation in the Greek market and the guidelines provided by the world-wide recognized model curriculums for Undergraduate Degree Programs in Information Systems by ACM and IEEE Computer Society, the department has prepared a curriculum (see section 3.1.2) that aims in providing its students with those skills that will enable them, after graduation, to be competitive in the ICT market and also in narrowing the “skills gap”.

More specifically, the factors that have influenced the structure of the curriculum are briefly listed below. It is also emphasized that the same factors will be monitored continuously, driving its future updates.

- International guidelines for ICT curriculums
- Knowledge and skills required by both the ICT market and the institutions/centers involved in theoretical and applied research projects.
- The evaluation of the initial curriculum of the department and the proposals expressed by the teaching personnel.
- Indicators regarding the applicability level of the curriculum.
Furthermore, the curriculum has been –and will continue to be-- evaluated by the students. They provide feedback that is either explicit, as far as the day-to-day applicability of the curriculum is concerned, or implicit through their choices, their success rate and their rate of acceptance by the market and other research institutions.

3.1.1.3 Offered Courses

The courses have been classified in the following three categories:

- **Compulsory Courses**. Forty-five compulsory courses are offered. The allocation of compulsory courses per semester is given in the following Table.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Compulsory Courses</th>
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<tr>
<td>B</td>
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<td>E</td>
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<tr>
<td>F</td>
<td>6</td>
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<tr>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td>H</td>
<td>3</td>
</tr>
<tr>
<td>I</td>
<td>2</td>
</tr>
<tr>
<td>J</td>
<td>1</td>
</tr>
</tbody>
</table>

- **Option Courses**. Twenty-eight option courses are offered. Students may chose any combination of option courses, so as to accumulate the credits required for graduation. The number of option courses offered each semester is shown in the following Table.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Option Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>5</td>
</tr>
<tr>
<td>H</td>
<td>7</td>
</tr>
<tr>
<td>I</td>
<td>8</td>
</tr>
<tr>
<td>J</td>
<td>8</td>
</tr>
</tbody>
</table>

- **Special Option Courses**. Two special option courses are offered. These courses are not assigned any credit points.

The full list of courses per semester follows.
### Semester A’

All courses of Semester A’ are Compulsory.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-1402</td>
<td>Information and Communication Systems</td>
<td>5 (2)</td>
<td>4</td>
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<td>321-1102</td>
<td>Mathematics I</td>
<td>5 (2)</td>
<td>4</td>
<td>2</td>
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<tr>
<td>321-1501</td>
<td>Discrete Mathematics I</td>
<td>4 (1.5)</td>
<td>4</td>
<td>-</td>
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<tr>
<td>321-1201</td>
<td>Software Design and Implementation</td>
<td>6 (2)</td>
<td>4</td>
<td>2</td>
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<tr>
<td>321-2002</td>
<td>Logical Design of Digital Systems</td>
<td>5 (2)</td>
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<td>2</td>
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<td>321-2503</td>
<td>Information Society</td>
<td>4 (1.5)</td>
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<tr>
<td>321-0121</td>
<td>English Language</td>
<td>See 321-0141</td>
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### Semester B’

All courses of Semester B’ are Compulsory.

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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<th>Lab (Hours)</th>
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<td>Physics</td>
<td>4 (1.5)</td>
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<td>321-2402</td>
<td>Probability and Statistics</td>
<td>4 (1.5)</td>
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<td>Programming Methodologies and Languages I</td>
<td>5 (2)</td>
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<td>Discrete Mathematics II</td>
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<td>Information Systems Analysis and Design I</td>
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</table>

### Semester C’

All courses of Semester C’ are Compulsory.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-3151</td>
<td>Mathematics III</td>
<td>5 (2)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>321-3550</td>
<td>Mathematical Logic and Logical Programming</td>
<td>5 (2)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>321-3002</td>
<td>Algorithms and Data Structures</td>
<td>4 (1.5)</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>321-3650</td>
<td>Programming Methodologies and Languages II</td>
<td>5 (2)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>321-3350</td>
<td>Computer Architecture I</td>
<td>5 (2)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>321-3750</td>
<td>Stochastic Processes and Modeling</td>
<td>4 (1.5)</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>321-0141</td>
<td>English Language</td>
<td>3 (1.5)</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

* For the ‘English Language’ course the final grade is calculated as the average of the 321-0131 and 321-0141 course grades. Course 321-0151 is optional and does not contribute to the final grade.
### Semester D’

All courses of Semester D’ are Compulsory.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits (Weighting)</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-4151</td>
<td>Mathematics IV</td>
<td>5 (2)</td>
<td>4</td>
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</tr>
<tr>
<td>321-4001</td>
<td>Software Engineering</td>
<td>5 (2)</td>
<td>4</td>
<td>2</td>
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<tr>
<td>321-4102</td>
<td>Operating Systems</td>
<td>5 (2)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>321-2302</td>
<td>Enterprise Operation and Information Systems</td>
<td>5 (2)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>321-3202</td>
<td>Databases</td>
<td>5 (2)</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

### Semester E’

All courses of Semester E’ are Compulsory.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits (Weighting)</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-5750</td>
<td>Introduction to Law and Personal Data Protection</td>
<td>4 (1.5)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>321-5150</td>
<td>Information Systems Analysis and Design II</td>
<td>6 (2)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>321-5700</td>
<td>Introduction to Environmental Sciences</td>
<td>4 (1.5)</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>321-6451</td>
<td>Computer Networks</td>
<td>5 (2)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>321-1602</td>
<td>Information Systems Economics</td>
<td>4 (1.5)</td>
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</table>

### Semester F’

1. Compulsory Courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits (Weighting)</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-3701</td>
<td>Database Design</td>
<td>5 (2)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>321-3451</td>
<td>Telecommunications</td>
<td>6 (2)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>321-5601</td>
<td>Human Computer Interaction</td>
<td>5 (2)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>321-3402</td>
<td>Information and Communication Systems Security</td>
<td>5 (2)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>321-3601</td>
<td>Artificial Intelligence</td>
<td>5 (2)</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

2. Special Option Course

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits (Weighting)</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-6650</td>
<td>Sexes and New Technologies</td>
<td>-</td>
<td>3</td>
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</tbody>
</table>

1. Compulsory Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits (Weighting)</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-8101</td>
<td>Project Management</td>
<td>4 (1.5)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>321-6551</td>
<td>Multimedia</td>
<td>4 (1.5)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Name</td>
<td>Credits (Weighting)</td>
<td>Theory (Hours)</td>
<td>Lab (Hours)</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
<td>---------------------</td>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>321-6501</td>
<td>Information Systems Management</td>
<td>4 (1.5)</td>
<td>4</td>
<td>-</td>
</tr>
</tbody>
</table>

2. Option Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits (Weighting)</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-6251</td>
<td>Internet Technologies</td>
<td>4 (1.5)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>321-6551</td>
<td>Information Theory</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>321-8352</td>
<td>Network Management</td>
<td>4 (1.5)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>321-5251</td>
<td>Computer Architecture II</td>
<td>4 (1.5)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>321-8251</td>
<td>Information and Communication Systems Reliability</td>
<td>4 (1.5)</td>
<td>3</td>
<td>2</td>
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</tbody>
</table>

Semester H’

1. Compulsory Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits (Weighting)</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-8150</td>
<td>Design and Development of Information Systems</td>
<td>4 (1.5)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>321-7401</td>
<td>Knowledge Engineering and Knowledge Systems</td>
<td>4 (1.5)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>321-8501</td>
<td>Decision Support Systems</td>
<td>4 (1.5)</td>
<td>3</td>
<td>2</td>
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</tbody>
</table>

2. Option Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits (Weighting)</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-7152</td>
<td>Distributed Programming in the World Wide Web</td>
<td>4 (1.5)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>321-7251</td>
<td>Mobile Personal Communication Systems</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>321-6401</td>
<td>Systems Performance Evaluation</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>321-3502</td>
<td>Compilers and Interpreters</td>
<td>4 (1.5)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>321-7501</td>
<td>Scientific Computing</td>
<td>4 (1.5)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>321-8700</td>
<td>Evolutionary Programming</td>
<td>4 (1.5)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>321-7601</td>
<td>Industrial Placement <em>(refer to Section 3.2)</em></td>
<td>4 (1.5)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

3. Special Option Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits (Weighting)</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Semester I’

1. Compulsory Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits (Weighting)</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-7101</td>
<td>Final Year Project</td>
<td>12 (2)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>321-9100</td>
<td>Presentation and Communication Techniques</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
</tbody>
</table>
### 2. Option Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits (Weighting)</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-9200</td>
<td>Neural Networks</td>
<td>3 (1.5)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>321-5401</td>
<td>Information Systems Strategy and Investment</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>321-6201</td>
<td>Network Security</td>
<td>4 (1.5)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>321-8551</td>
<td>Language Engineering</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>321-9300</td>
<td>Digital Signal and Image Processing</td>
<td>4 (1.5)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>321-9400</td>
<td>High Speed Networks</td>
<td>4 (1.5)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>321-9500</td>
<td>Environmental Issues of Global Perspective</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>321-6401</td>
<td>Information Systems Audit</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
</tbody>
</table>

### Semester J’

#### 1. Compulsory Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits (Weighting)</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-7101</td>
<td>Final Year Project</td>
<td>12 (2)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>321-7101</td>
<td>Legal and Technical Environment in the Information Society</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
</tbody>
</table>

#### 2. Option Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits (Weighting)</th>
<th>Theory (Hours)</th>
<th>Lab (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>321-6351</td>
<td>Parallel and Distributed Computing</td>
<td>3 (1.5)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>321-10200</td>
<td>Information Retrieval</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>321-10300</td>
<td>Digital Communications</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>321-10400</td>
<td>Protocol Theory and Design</td>
<td>3 (1.5)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>321-10500</td>
<td>Applied Cryptography</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>321-10600</td>
<td>Geographic Information Systems</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>321-10700</td>
<td>Health Information Systems</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>321-10800</td>
<td>Nomadic Computing</td>
<td>3 (1.5)</td>
<td>3</td>
<td>-</td>
</tr>
</tbody>
</table>

### 3.1.1.4 Graduation Requirements

A predetermined number of credit points has been associated with each course. A student, in order to get his/her degree, must fulfill the following requirements:

1. Collect at least 259 Credit Points.
2. Pass all Compulsory Courses.

3. Pass the English Language courses.

Each course contributes to the graduation grade with a different weight that depends on the number of credit points associated with the course (illustrated in the following Table).

<table>
<thead>
<tr>
<th>Credit Points</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 2</td>
<td>1</td>
</tr>
<tr>
<td>3 – 4</td>
<td>1.5</td>
</tr>
<tr>
<td>More than 4</td>
<td>2</td>
</tr>
</tbody>
</table>

The degree grade is calculated by multiplying the course grade by the course weighting factor, for all the courses successfully completed, and then dividing the sum of these products by the sum of the weighting factors.

3.1.2 Graduates’ Profile

ICT graduates need a solid foundation in technical skills from both the engineering and informatics cultures, with a particular emphasis on a broad systems perspective. They need training in team working, with real experience of team projects where several activities are undertaken in parallel. They need a basic understanding of economics, market and business issues too. In addition, ICT graduates need to have good personal skills such as problem solving abilities, communication and persuasion skills, awareness of the need for life long learning, readiness to understand fully the needs of the customer and their project colleagues, and awareness of cultural differences when acting in a global environment.

In other words, they need qualifications, which enable them to work in the activity areas described in the *ICT Consortium's Career Space core generic skills profiles for the ICT Industry in Europe* ([www.career-space.com](http://www.career-space.com)).

Taking into account that at the start of the 21st century the need for such graduates in the ICT industry is rapidly increasing, the curriculum designed by the department of Information and Communication Systems Engineering aims to respond to this need by providing solid foundations for graduates to become effective leaders and innovators in the ICT industry.

More specifically the “profile” of the department’s graduates, in terms of the major “business areas” in which they can be involved and also the technological and behavioral “skills” required by each business area, are listed next:

<table>
<thead>
<tr>
<th>Business Area</th>
<th>Information and Communication Systems Engineer (Project Organization, Coordination and Progress Monitoring).</th>
</tr>
</thead>
</table>

Identify and analyze the existing and future needs of the customer, aiming at designing, developing, testing and managing – in a methodological way – an integrated information system, that supports the operation of the organization while exhibiting a competitive cost-benefit ratio. Normally, this specific role assumes the coordination of several working groups that specialize in areas like software development, networks, telecommunications etc.

<table>
<thead>
<tr>
<th>Required Technological Skills</th>
<th>Courses that Contribute to the Required Technological Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Network Technologies</td>
<td>Computer Communications</td>
</tr>
<tr>
<td>Application Development Methodologies</td>
<td>Programming Methodologies and Languages I</td>
</tr>
<tr>
<td>Data Bases</td>
<td>Data Bases</td>
</tr>
<tr>
<td>Computer Systems Architecture</td>
<td>Computer Architectures I</td>
</tr>
<tr>
<td>System Integration and Management</td>
<td>Information Systems Management</td>
</tr>
<tr>
<td>Project Management</td>
<td>Project Management</td>
</tr>
<tr>
<td>Data Protection Knowledge</td>
<td>Legal and Technical Environment in the Information Society</td>
</tr>
<tr>
<td>Information and Communication Systems Security</td>
<td>Information and Communication Systems Security</td>
</tr>
</tbody>
</table>
### Business Area: Communications Network Design

Use of commercial products for the design of computer networks that fulfill the customer needs offering, at the same time, a cost-effective solution. The specific role assumes very good knowledge of commercial products and collaboration with national and international telecommunication organizations.

<table>
<thead>
<tr>
<th>Required Technological Skills</th>
<th>Courses that Contribute to the Required Technological Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Network Technologies</strong></td>
<td>Computer Communications</td>
</tr>
<tr>
<td></td>
<td>Mobile Personal Communication Systems</td>
</tr>
<tr>
<td><strong>Modeling Techniques</strong></td>
<td>Signals and Systems</td>
</tr>
<tr>
<td><strong>Design Methodologies</strong></td>
<td>Internet Technologies</td>
</tr>
<tr>
<td></td>
<td>Electronic Commerce</td>
</tr>
<tr>
<td><strong>Information Flow Analysis</strong></td>
<td>Information Theory</td>
</tr>
<tr>
<td><strong>Communication Protocols</strong></td>
<td>Protocol Theory and Design</td>
</tr>
<tr>
<td><strong>System Performance Evaluation and System Reliability</strong></td>
<td>Systems Performance Evaluation</td>
</tr>
<tr>
<td><strong>Network Security</strong></td>
<td>Information and Communication Systems Security</td>
</tr>
</tbody>
</table>

### Business Area: Software & Applications Design and Development

Use of programming languages, development tools and RDBMS systems for the analysis, design, development and testing of applications software that fulfills the entire user requirements list. All the procedures should comply with well-established methodologies for the analysis and design of ICT systems. Crucial factors are the accurate “problem identification”, the available infrastructure, the analysis of existing customer procedures and issues related to the ergonomics and usability of the application.

<table>
<thead>
<tr>
<th>Required Technological Skills</th>
<th>Courses that Contribute to the Required Technological Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information Systems Analysis and Design</strong></td>
<td>Information Systems Analysis and Design I</td>
</tr>
<tr>
<td><strong>Programming – Development Methodologies</strong></td>
<td>Programming Methodologies and Languages I</td>
</tr>
<tr>
<td></td>
<td>Decision Support Systems</td>
</tr>
<tr>
<td><strong>Testing and Auditing Methodologies</strong></td>
<td>Project management</td>
</tr>
<tr>
<td><strong>Software Engineering</strong></td>
<td>Software Engineering</td>
</tr>
</tbody>
</table>
### Development Tools

<table>
<thead>
<tr>
<th>Development Tools</th>
<th>Course Description</th>
<th>Multimedia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and Development of Information Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multimedia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Required Technological Skills

<table>
<thead>
<tr>
<th>Required Technological Skills</th>
<th>Courses that Contribute to the Required Technological Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Bases</td>
<td>Data Bases</td>
</tr>
<tr>
<td>Operating Systems</td>
<td>Operating Systems</td>
</tr>
<tr>
<td>Computer Systems Architecture</td>
<td>Computer Architecture I</td>
</tr>
<tr>
<td>Project Management</td>
<td>Project Management</td>
</tr>
<tr>
<td>Information and Communication Systems Security</td>
<td>Information and Communication Systems Security</td>
</tr>
</tbody>
</table>

### Business Area

<table>
<thead>
<tr>
<th>Business Area</th>
<th>IT Business Consultancy</th>
</tr>
</thead>
</table>

The I.T. Business Consultant is responsible for ensuring that business needs are met when developing and implementing I.T. solutions. He/she has understanding of the business strategy and the I.T. solutions required to support it. The person entering this type of job also requires understanding of I.T. industry directions and technologies and demonstrates this in ways that can be used to build the required I.T. solutions. The I.T. Business Consultant is focused on analysing, planning and developing I.T. solutions that support the business needs of the firm. He/she also participates in business planning, business needs analysis and business risk assessment. The I.T. Business Consultant also acts as an in-house consultant working with the various functional areas of an organisation, providing advice and guidance on how to support the business operations through the effective use of I.T.

### Required Technological Skills

<table>
<thead>
<tr>
<th>Required Technological Skills</th>
<th>Courses that Contribute to the Required Technological Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Strategy Planning</td>
<td>Information Systems Strategy and Investment</td>
</tr>
<tr>
<td>Business Requirements Analysis</td>
<td>Information Systems Economics</td>
</tr>
<tr>
<td>Systems Development Methods</td>
<td>Programming Methodologies and Languages I</td>
</tr>
<tr>
<td>Technology Tends</td>
<td>Knowledge Engineering and Knowledge Systems</td>
</tr>
<tr>
<td>Management of ICT Systems</td>
<td>Information Systems Management</td>
</tr>
<tr>
<td>Data Protection Knowledge</td>
<td>Legal and Technical Environment in the Information Society</td>
</tr>
<tr>
<td>Information and Communication Systems Security</td>
<td>Information and Communication Systems Security</td>
</tr>
</tbody>
</table>


Page 26 form 69
Research activities in specialized ICT sectors aiming at advancing state-of-the-art technologies, developing innovative information systems and in general utilizing the research results for fulfilling, in a cost-effective way, various user needs. It is emphasized that for the specific business area the curriculum offers some basic research directions in order to enable students to choose their research area for their postgraduate studies. The technological skills necessary for the various research activities are developed during the postgraduate studies.

### Courses Preparing Students for Research Activities (Research Directions)

<table>
<thead>
<tr>
<th>Computer Architecture II</th>
<th>Parallel and Distributed Computing</th>
<th>High Performance Computing</th>
<th>Neural Networks</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Speed Networks</td>
<td>Digital Communications</td>
<td>Protocol Theory and Design</td>
<td></td>
</tr>
<tr>
<td>Information Systems Audit</td>
<td>Applied Cryptography</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Retrieval</td>
<td>Geographic Information Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital Signal and Image Processing</td>
<td>Health Information Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language Engineering</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is emphasized that in addition to the courses listed in the above tables the curriculum includes a number of “Main Stream” courses offering the appropriate background scientific knowledge and can thus be considered as “prerequisites” to the courses that contribute to the development of technological skills. These mainstream courses are listed in the following table.

### Main Stream Courses

<table>
<thead>
<tr>
<th>Information and Communication Systems</th>
<th>Mathematics I</th>
<th>Probability and Statistics</th>
<th>Algorithms and Data Structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical Design of Digital Systems</td>
<td>Mathematics II</td>
<td>Discrete Mathematics I</td>
<td>Software Design and Implementation</td>
</tr>
<tr>
<td>Information Society</td>
<td>Mathematics III</td>
<td>Discrete Mathematics II</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mathematics IV</td>
<td>Mathematical Logic and Logical Programming</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>English Language</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
For all the above-mentioned Business Areas and on top of the technological skills that have been presented, specific “Behavioral Skills” are also desirable. These skills are actually dominating the role-behavior of each individual in his/her working environment. It is clear that in several cases the technological skills are not enough for ensuring a successful professional life to someone who, for instance, can not collaborate with other people.

### Required Behavioral Skills

<table>
<thead>
<tr>
<th>Teamwork</th>
<th>Communication</th>
<th>Creativity</th>
<th>Flexibility and Self Learning</th>
<th>Coordination</th>
<th>Planning and Organization</th>
<th>Management</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Courses that Contribute to the Required Behavioral Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Year Project</td>
</tr>
<tr>
<td>Presentation and Communication Techniques</td>
</tr>
</tbody>
</table>

The table above displays the percentage of total teaching time of the academic year 2003 – 2004 per knowledge area. A graphical representation of the table is shown in the following bar chart.
3.2 Industrial Placement

Since 1998, the department has been establishing firm relations with software and telecommunication industry companies through project collaborations. A committee, consisting of faculty members of the department, has been established for this purpose as well. The committee has organized numerous meetings and lectures of business executives in order to further strengthen these bonds between the department and the industry.

The course “Industrial Placement” has been included in the departmental program of study since 1998. It is an optional course of the 8-th semester with 4 educational credits. The main goal of this course is to give the student a limited but necessary “working experience” that will be very helpful when he will be trying to find his way in the demanding and competitive market of information and communications technologies sector. Of equal importance is the feedback received from our industry partners, related to the achievements and performance of our students.

Every student who selects this course is being employed by a company of the private or public sector during the summer months and is working on small, and limited duration projects related to the business profile of the company and the areas of interests of the department. Each student is supervised both by a department faculty member and a corresponding company employee, who are responsible for the guidance and progress of the student within the company. After the training period, student submits a short description of his work signed by the company supervisor and receives a grade by the academic supervisor.

The department has also managed to acquire financial support of 30400EUROS through the project EPEAEK, funded by the European Commission and the Greek government, for the years 2002-2004, to assist some of the management activities of the course and the economic funding of the industry positions that are not supported by the company.

During the summer of 2002, the first year of industry placement program, about half of the student population of the 8-th semester, that is 20 students in total, was included in the program. The main activities undertaken by them were: application and web programming, software development in company projects, network management.
The main results, reflected by evaluation indices, as they are included in the EPEAEK project proposal, are outlined in the following table. In every case, the goals of the department were over satisfied:

<table>
<thead>
<tr>
<th>Index</th>
<th>Goal</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Students Placed</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Company Funded Positions</td>
<td>0%</td>
<td>45%</td>
</tr>
<tr>
<td>Women in the Program</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>(# of Students Placed) / (# of Requests)</td>
<td>80%</td>
<td>91%</td>
</tr>
</tbody>
</table>

Some further interesting features of the positions profiles, offered by the companies during the first year of the program, are outlined in the table below:

<table>
<thead>
<tr>
<th>Company Sector</th>
<th>Company Location</th>
<th>Duration (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>Athens</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Public</td>
<td>Samos</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Elsewhere</td>
<td>&gt; 2</td>
</tr>
</tbody>
</table>

| Percentage of positions | 50% | 50% | 50% | 25% | 25% | 30% | 60% | 10% |

### 3.3 Postgraduate Studies

#### 3.3.1 Introduction

The Information and Communication Technologies (ICTs) sector is one of the most rapidly growing sectors of the world economy; it accounts for 6.3% of the total gross product of Europe. ICTs become more and more important for the economy, and their rapid proliferation results in the gradual development of the ‘New Digital Economy’. This ‘New Digital Economy’, as we advance towards the Information Society, includes the radical transformation of the existing economic activities, and at the same time the development of new economic activities, based on the digital technologies, which make storage, processing, dissemination and exploitation of information much easier, faster, more efficient and less expensive than in the past. The huge quantity of the available digital information radically transforms the operation of enterprises and markets, being a catalyst for major transformations, aiming at the creation of new added value, based on the exploitation of information.

In this ‘New Digital Economy’ the effectiveness and the competitiveness of organizations, both in the public and in the private sector, are increasingly based on the extent and the effectiveness of ICTs exploitation.

In this context, both the Undergraduate Studies Program and Postgraduate Studies Program of the Department of Information and Communication Systems Engineering (www.icsd.aegean.gr) aim at preparing highly knowledgeable and skilled scientists in significant areas of ICTs, with:

- A high background level of both specialized knowledge and skills,
- Analytic, synthetic, critical and creative spirit,
- Capability to work effectively in teams,
• Capability to contribute from positions of high responsibility to the effective exploitation and management of ICTs in public and private sector organizations,
• Capability to contribute to the creation of new knowledge by participating in basic and applied research and development projects.

Employments Opportunities
• Companies and organizations targeting in the development of Information and Communication Systems,
• Information and Communication Systems Management in Organizations,
• Projects management,
• Provision of consultancy services and systems integration,
• Development of new business opportunities via the deployment of ICT,
• Basic and applied research in information and communication systems.

The Postgraduate course in “technologies and management of information and communication systems” aims at:
• Educating and training the future information society engineers with specialized skills in deploying, designing, developing the information and communication technologies of the present and near future, with the appropriate ICT and business foundations, and the analytical and critical-thinking skills for managing information and communication systems,
• Development of new knowledge, creating new views and promoting basic and applied research in the fields described by the major program’s divisions.

Postgraduate Degrees
The Department provides the following two postgraduate degrees:

➢ Postgraduate Specialization Degree in “Technologies and Management of Information and Communication Systems” (further described in the following Sections)

➢ Doctor of Philosophy (PhD) Degree.

Employments Opportunities
• Companies and organizations targeting in the development of Information and Communication Systems
• Information and Communication Systems Management in Organizations
• Projects management
• Provision of consultancy services and systems integration
• Development of new business opportunities via the deployment of ICT
• Basic and applied research in information and communication systems.
Further general information related with the postgraduate studies of the department is placed at the department's site


### 3.3.2 Postgraduate Courses

#### 3.3.2.1 The objective of the Postgraduate Specialization Degree

The objective of the Postgraduate Studies Program of the Department of Information and Communication Systems Engineering is to foster basic and applied research and provide high-level education in the area of Information and Communication Systems, covering both the in-depth knowledge and its practical exploitation.

- **Information & Communication Systems Security**
- **Information Management**
- **Communication & Computer Networking Technologies**

The Master’s Degree program duration is three semesters. During the first two semesters students follow ten one-semester courses, while the last semester is devoted to the development of their MSc Thesis.

#### 3.3.2.2 Information and Communication Systems Security

The widespread use of Information and Communication Technologies, throughout the world, drives the financial and social development and thus contributes to the formulation of the Information Society. Private companies become more and more active in “e-Business”, explore new opportunities in this area and face new challenges. Furthermore, the necessity for electronic services delivery by governments and public administrations gives rise to “e-Government”, aiming at the reduction of the operational costs and at the same time at improving the services offered to the citizens and the enterprises.

However, frequently the progress and the results of such activities are not satisfactory, mainly due to security problems associated with the use of open computer networks and the Internet. In order to deal with the aforementioned problems in an effective way, it is necessary to define strategies, develop policies, design methodologies, implement services and invoke specific mechanisms for managing these security problems, and developing an integrated secure and trusted environment.

The aim of the “Information and Communication Systems Security” Stream is to educate the students on all aspects pertaining to the development, management and evaluation of a secure Information and Communication System. In particular, this Stream will offer all the knowledge and skills required for:

- Analyzing, designing, developing, managing and evaluating the security level of an Information and Communication System, in close analogy to the ‘real’ operational environment of a typical organization,
• Creating new knowledge, by participating in research and development activities in the area of Information and Communication Systems Security.

The courses offered by this Stream attempt to reflect, as much as possible, the aforementioned hybrid character of skills and knowledge, enabling students to get actively involved in both:

• Technical and other applied aspects of information and communication systems security, making them competitive in the job market, and

• Research activities aiming to the enhancement or/and improvement of existing security technologies through the development of new methods, techniques and strategies.

Some indicative application domains that heavily rely on the security of the associated information and communication systems are: Electronic Commerce, Electronic Government, Information Systems’ Risk Analysis and Management, Design of Secure Data Bases, Secure Operating Systems, Secure Computer Networks and Services, Mechanisms for Secure Wireless Networks, Designing Crypto-algorithms, Developing Crypto-systems and Services etc.

The faculty who participate in this Stream conduct high quality research in the area of information and communication systems security, focused on the following research topics:

• Secure e-Commerce, e-Business, e-Government services

• Public Key Infrastructure Architectures

• Secure e-Voting Systems

• Security Management

• Knowledge Management techniques for Security Management

• Computing Forensics

• Wireless Security

• Grid Security

• Privacy Enhancing Technologies

• Smart Card Technologies

3.3.2.3 Communication & Computer Networking Technologies

Communication and computer networks are one of the most rapidly growing areas of the ICTs science, with quite significant technological advances that actually change the way people work, study, interact, perform business and live their lives. Modern enterprises involved in this industry require that their engineers and executive personnel have a concrete theoretical background and wide knowledge of the recent technological innovations and applications, as well as analysis skills, which are necessary in order to succeed in such a demanding and rapidly evolving field.
The “Communication and Computer Networking Technologies” Stream, attempting to meet the requirements of the Greek and in general the European market for highly specialized personnel in the modern trends of this area, has offered, since 2002, a high quality postgraduate education program, which combines theoretical foundations as well as practical knowledge and skills concerning the most recent advances in this area.

This Stream is appropriate for students with undergraduate Degrees associated with the areas of Computer Science, Informatics, Computer Engineering and Electrical Engineering, who wish to:

• Work in the design, development, management and operation of networks, in small or large enterprises of the communications or networks sectors,

• Get involved in management and decision-making in the telecommunications industry,

• Conduct research and development in this area.

Major applications of interest in the area of communications and networking include:

• Pervasive and ubiquitous computing,

• Internet applications and multimedia communications (e-commerce, entertainment, distant learning, etc),

• Emergency and critical ad-hoc networking applications,

• Location based application and services,

• Grid computing and services.

The courses of this Stream have been selected and designed to meet the needs of the Greek and European market concerning specialized personnel in a wide range of topics concerning communication and computer networks. The course of study is an interdisciplinary, innovative blend of engineering-oriented courses in broadband backbone infrastructure networks, fixed and wireless access networks technologies, communication protocols and architectures, security, reliability and performance issues in modern networks, and also business exploitation of networks, e-business, etc.

In particular, the courses focus on the technology of communications and networking and the system engineering aspects of telecommunication networks that allow the student to design, evaluate and modify integrated telecommunication systems.

Upon graduation, the students attending this Stream will have gained significant advantages, such as:

• A strong knowledge of modern network technologies, systems, and services,

• The capability to compare and evaluate relevant products and services,
• The capability to supervise and manage complex and demanding communication projects.

The Telecommunications group is very active in the areas of mobile and wireless communications, computer networks, broadband technologies, network management and business exploitation of networks, and can supervise postgraduate research work of highly qualified graduate engineers in these areas. The main research topics of the group are:

• Design of wireless and fixed communication networks and architectures,

• Protocol verification and simulation,

• Analysis and performance evaluation of networks and protocols,

• Methods and formalisms for the description of telecommunication systems and services,

• Network management,

• Traffic and admission control,

• Interconnection of heterogeneous systems,

• e-Business and e-Government,

• Computer supported collaborative work.

3.3.2.4 Information Management

In the modern “Information and Knowledge Economy and Society”, the vast amount of information that drives the activities of organizations and communities leads to changes on markets and societies. The restructuring of businesses towards capturing, exploiting and disseminating information derived from different sources, being in different grain size and in different modalities, in ways that are seamless to the performance of everyday tasks, is emerging.

In this context the scope of the “Information Management” Stream concerns the study of methods, and techniques for:

• Exploiting distributed information,

• Integrating information derived from different sources,

• Capturing and Mining Information from vast amounts of data,

• Designing and implementing distributed systems for information exploitation.

Towards the above objectives, this stream offers courses concerning:

• “Low level” information coding and methods for secure, fast and reliable manipulation of information volumes,
• Representation schemes and languages for semantically exploiting information items,
• Methods and techniques for mining information out of data,
• Exploiting the semantics of information for better information management and exploitation,
• Systems for the exploitation of distributed (mainly heterogeneous) information sources,
• Reliability of information and communication systems.

Major applications of the above concern:
• Personalized information provision for improved information access
• Information integration (mostly of heterogeneous information sources)
• Semantic web applications and services (exploiting semantics for querying, combining, searching and retrieving information in open systems according to user needs and preferences)
• Knowledge management and contextualized learning in organizations
• Improved information exploitation for better search and access to information based on content rather than on form
• Adaptive information systems in highly dynamic and unpredictable environments
• Ubiquitous information services with respect to people tasks, interests, cognitive abilities, machine processing and information processing abilities and context of interaction

The teaching-research staff of this Stream conduct research of high quality in the area of information management, focused on the following research topics:
• Knowledge Representation,
• Agents and Multi-Agents Systems,
• Ontologies,
• Knowledge Discovery.

3.3.2.5 Management of Information & Communication Systems
Not applicable for the academic year 2004 – 2005
4. Research Profile and Activities

4.1 Results Summary

For academic results we consider publications comprising of: PhD dissertations, engineering and masters theses, books and book chapters, patents, national and international journal and conference papers. For the five year period 2002-2004 the following table summarizes the results.

<table>
<thead>
<tr>
<th>Publication Type</th>
<th>Before 2001</th>
<th>2002-2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD Degrees</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Engineering Degrees</td>
<td>0</td>
<td>31</td>
</tr>
<tr>
<td>Masters Degrees</td>
<td>0</td>
<td>The Masters program has started its operation during December 2002</td>
</tr>
<tr>
<td>Books/Book Chapters</td>
<td>49</td>
<td>28</td>
</tr>
<tr>
<td>Patents</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Journal publications</td>
<td>109</td>
<td>69</td>
</tr>
<tr>
<td>Conference Publications</td>
<td>160</td>
<td>120</td>
</tr>
</tbody>
</table>

4.2 Research Interests and R&D Projects

The research interests of the academic staff, within the department of Information and Communication Systems Engineering, are mainly focusing on the topics listed next:

- Analysis and Design of Information Systems
- Intelligent Systems
- Intelligent Agents
- Terminological Knowledge Bases
- Data Mining
- Knowledge-based Systems
- Constraint Satisfaction Problems & Constraint Programming, Search, Combinatorial Optimization, Heuristics, Temporal Reasoning, Scheduling, Constraint-based Agents
- Information and Communication Systems Security
- Risk Analysis and Management
- Database Security
- Mobile and Ad-Hoc Networks Security
- Secure eCommerce, eBusiness, eGovernment services
- Public-Key Infrastructure architecture.
- Smart Cards
- Computer Systems Architecture
- Databases: Access methods and query processing in temporal, spatio-temporal and image databases.
- Computer Communication Networks,
- Mobile Networks,
- Performance Modelling and Evaluation of Wireless and Mobile Networks,
- Traffic Analysis Modelling and Characterisation
- Wireless Resource Management in Cellular and Wireless Networks
- Pricing in 3G+ Networks.
- Network Control
- Resource Management and Quality of Service in Broadband Networks
- IP Telephony
- Robust Multimedia Transport over IP and wireless networks
- Content Distribution Networks
- Peer to Peer Streaming
- Software Engineering
- Multimedia
- Biomedical Technology – Medical Informatics
- Digital Image Processing
- Distant Learning
- Information Society Regulatory frameworks
- Standardisation in Information and Communication Technologies
- Systems Differential Geometry
- Mathematical Relativity
- Generalized Theories
- Mathematical Cosmology

Furthermore the academic staff has significant experience in planning, implementing and managing competitive research and development projects. Some indicative R&D projects for the period 2002-2004 are listed next

**International Competitive Research and Development Projects**


**National Research and Development Projects**


**National Human Networks**


### 4.3 Research Laboratories

Although the Department has already founded eight Laboratories, it was not possible to develop laboratory activities as such, until the Academic Year 2002-2003. This is due to the fact that until 2001 (a) there were only 6 faculty members in the Department, two of them being on the level of professor and associate professor, (b) the department has concentrated mostly in developing the educational activities and (c) the department has not graduate students and had not an MSc program. On the contrary, faculty members have concentrated mostly on developing group activities.

Currently the most active research laboratories in the department are:

- Intelligent and Cooperative Systems Laboratory, founded in 1998
- Joint Research Laboratory in Systems’ Security, founded in 1997, and
- Telecommunications Laboratory, founded in 2002.
- Database Laboratory, founded in 2003.

**Intelligent and Cooperative Systems Laboratory**

The InCoSys (Intelligent Co-operative Systems) group was created in 1998 to investigate, develop and tie in activities concerning systems with advanced cooperative abilities. Such systems aim to participate in joint activities with other systems and with people.

The members of the Laboratory are shown in the list below:

- G.Vouros, Associate Professor and Director of the Laboratory
- A.Platis, Lecturer
- K.Stergiou, Lecturer
- E.Stamatatos, Instructor
- E.Kourakos, Technical Laboratory Personnel
The laboratory aims to develop systems that amplify the human abilities to cope with sheer volumes of information, that help them learn, organize their knowledge, share it with others effectively and satisfy their information needs.

Laboratory activities and projects aim to the development of:

- Knowledge based systems that solve complicated problems in safety-critical environments cooperatively with their human partners.
- Intelligent interfaces that participate in joint activities with users as active partners, present and organize information coherently and consistently.
- Active learning environments that choose the content and form of information presentation collaboratively with their users in order to satisfy the information needs of the latter.
- Tools and methods for fulfilling the combined needs of information producers and consumers. Information producers aim to provide information that achieves their communicative goals, addresses the needs, interests and satisfy the preferences of their intended audience. Information consumers need systems that tailor information to their background knowledge, preferences and abilities, and satisfy their information needs in various contexts of information use.
- Knowledge management systems in large and distributed organizations. The aim is to investigate, design and develop methods and tools for capturing, organizing and distributing intangible knowledge within an organization.

Towards these goals the Laboratory investigates issues concerning:

- Methods and tools for the representation of knowledge about information items in the context of the information presentation design task and for the participation of systems in coherent and fluent dialogues with their human partners.
- Architectures and theoretical frameworks for cooperative systems
- Web sites' log files mining for sites' evaluation

Major laboratory competencies are within:

- Ontological and Knowledge Engineering.
- The development of intelligent agents that act and deliberate in dynamic and unpredictable environments.
- Theories and architectures for the development of cooperative agents
- Reliability measures for evaluating web sites

**Information and Communication Systems Security Laboratory**

The Info-Sec-Lab ([www.icsd.aegean.gr/Info-Sec-Lab](http://www.icsd.aegean.gr/Info-Sec-Lab)) is active, for more than ten years, in the areas of Information and Communication Systems Security and Data Protection. The laboratory consists of five faculty members from the department of Information and Communication Systems Engineering – University of the Aegean and more than fifteen highly qualified researchers and postgraduate students.

The faculty members of the laboratory are listed bellow:

- S.Katsikas, Professor and Director of the Laboratory
- S.Gritzalis, Associate Professor

The members of the Info-Sec-Lab have participated in several R&D projects on security and privacy, security investigations, audits, security conference committees, and security reviews. The majority of the R&D projects are either funded by the European Commission (e.g. FP6/SMEs, IST, Telematics for Administrations, ESPRIT, European Trusted Services ETS I & II, ISIS, INFOSEC, Healthcare Telematics, RACE, ACTS, AIM, VALUE, STAR, ORA, Socrates/Erasmus etc.) or by the Greek Government (e.g. the Greek General Secretariat for Research and Technology, Ministries of Defense, Health, Education, Development, Welfare, Finance, Foreign Affairs, Culture, Justice, Interior, Data Protection Commission, etc.). Furthermore, there are several projects being funded by private organizations (e.g. the Hellenic PTT (OTE SA), Athens Chamber of Commerce and Industry, Hellenic Petroleum (EKO SA), the Athens Underground, Athens Tram, etc.).

Prof. S. K. Katsikas, the Director of the Info-Sec-Lab, is leading the European Inter-University Co-Operation Programme on Information and Communication Systems Security for many years. This ICP membership comprises more than twenty-five European Universities and its related activities include exchanging students and faculty members, the development of a model curriculum for an MSc on I&C Systems Security, and the organisation of a European intensive course.


The Telecommunications laboratory, within the Department of Information and Communications Systems Engineering of the University of the Aegean, is very active in the areas of mobile communications, computer networks, broadband communications, network management and traffic control. The lab consists of four faculty members with Ph.D. in the area of telecommunications, who supervise postgraduate research work of five highly qualified graduate engineers.

The members of the Laboratory are displayed bellow:

- A.Rouskas, Assistant Professor and Director of the Laboratory
- G.Kormetzas, Lecturer
- D.Vergados, Lecturer
- H.Maglogiannis, Instructor
- D. Skoutas, Technical Laboratory Personnel
The lab is entirely devoted to research activities and its members are highly qualified in their corresponding research fields. The members of the lab have extensive theoretical and computational experience in the fields of design of communication networks, OSI architecture, protocol verification and simulation, analysis and performance evaluation, methods and formalisms for the description of telecommunication systems and services, network management and traffic control, non-functional requirements (Quality of Service, Network Performance, Monitoring, Security), interconnection systems design and integration, design and development of interfaces for heterogeneous system communications, ISDN, LANs, WANs, ATM, IEEE 802.11, GPRS.

Topics of interest include:

- Traffic analysis, network control, resource management and quality of service in broadband networks.
- Resource management of mobile communication networks.
- Mobile networks security.
- Performance evaluation of wireless and mobile networks.
- Interconnection systems design and integration.
- Design and development of interfaces for heterogeneous system communication.
- Multi-media services, information servers and integrated platform architectures
- Biomedical Engineering, Image Processing, Telemedicine and Medical Informatics.

Databases Laboratory

G. Vouros, Associate Professor and Director of the Laboratory
T. Tzouramanis, Lecturer

4.4 Other Activities and Achievements

4.4.1 Editors

7. Vouros G., Information and Communication Technologies in Distance Learning: Trends and Issues (Guest Editor), Special issue of the THEMES in Education Journal, 2002.
8. Katsikas S., Associate Editor, IEEE Transactions on Information Technology in Biomedicine
12. Katsikas S., Public Key Infrastructures for Secure Computer Communications (Guest Editor), Special Issue of Computer Communications Journal.

4.4.2 Conference Programme & Organizing Committees Membership

Throughout the three-year period 2002 – 2004, members of the department’s academic staff have participated as Chairs, Co-Chairs or members in the Technical Programme Committee or/and the Organizing Committee of more than forty (40) international conferences. A full list of such activities can be found in Appendix A.

4.4.3 Refereeing for Scientific Journals & Conferences

Journals

- ACM Reviewer for Computing Reviews. (G.Kormentzas)
- ACM Transactions on Information and System Security (S.Gritzalis)
- Artificial Intelligence (K.Stergiou)
- Classical and Quantum Gravity (S. Cotsakis)
- Computer Communications (Elsevier) (S. Katsikas, S.Gritzalis, A. Rouskas, C. Skianis, T. Dagiuklas, G. Kormentzas)
- Computer Networks (Elsevier) (S. Gritzalis, A. Rouskas)
- IEE Electronics Letters (S. Katsikas, A. Rouskas, T. Dagiuklas)
- IEE Proceedings (S. Katsikas)
- IEE Proceedings in Communications (A. Rouskas, T. Dagiuklas)
- IEEE Circuits and Systems for Video Technology (T. Dagiuklas)
- IEEE Transactions on Mobile Computing (A. Rouskas)
- IEEE Transactions on Multimedia (T. Dagiuklas)
- IEEE Transactions on Signal Processing (S. Katsikas)
- IEEE Transactions on Wireless Communications (S. Gritzalis, A. Rouskas)
- IEEE/ACM Transactions on Networking (C. Skianis)
- Information Management and Computer Security (MCB University Press) (S. Gritzalis)
- Information Processing Letters (S.Gritzalis)
• International Journal of Computers and Applications (ACTA Press / IASTED) (I. Maglogiannis)
• International Journal of Electronic Healthcare (I. Maglogiannis)
• International Journal of Quality and Reliability Management (S. Gritzalis)
• Journal of Artificial Intelligence Research (K. Stergiou)
• Journal of Computer Security (S. Gritzalis)
• Journal of Database Management (S. Gritzalis)
• Journal of Mathematical Analysis and Applications (S. Cotsakis)
• Journal of Mathematical Physics (S. Cotsakis)
• Journal of Nonlinear Mathematical Physics (S. Cotsakis)
• Journal of Physics A (S. Cotsakis)
• Journal of Visual Communication and Image Representation (T. Dagiuklas)
• Performance Evaluation (Elsevier Science) (C. Skianis)
• Physical Review D (S. Cotsakis)
• Physical Review Letters (S. Cotsakis)
• SIAM Journal on Applied Mathematics (SIAM) (C. Skianis)
• Signal Processing Journal (S. Katsikas)
• Springer Physics Textbook Series (S. Cotsakis)
• Telecommunication Systems (G. Kormentzas)
• The Computer Journal (S. Katsikas, S. Gritzalis)
• The Journal of Supercomputing (Kluwer Academic Publishers) (C. Lambrinoudakis, I. Maglogiannis)
• Themes in Education (C. Lambrinoudakis)
• Wireless Communications and Mobile Computing (Wiley) (A. Rouskas)
• Wireless Networks (ACM/Baltzer) (A. Rouskas)
• Wireless Personal Communications (Kluwer) (A. Rouskas)

Conferences
Throughout the three-year period 2002 – 2004, members of the department’s academic staff have acted as referees in more than fifty (50) international conferences. The following list provides an indicative list for the year 2004.
• ENTER 2005 - 12th International Conference On Information Technology and Travel & Tourism, IFITT’s (I. Maglogiannis)
1st International Workshop on Next Generation Networking Middleware’ (NGNM04) (C. Skianis, I. Maglogiannis)

2nd International Working Conference on Performance Modelling and Evaluation of Heterogeneous Networks (HET-NETs04’) (G. Kormentzas, C. Skianis)

8th World Multiconference on Systemics, Cybernetics, and Informatics SCI 2004, International Institute of Informatics and Systemics (IIIS) (S. Gritzalis)


AIAI - 2004 IFIP International Conference on Artificial Intelligence Application and Innovations (I. Maglogiannis)

DEXA'2004/EGOV'04, 3rd International eGovernment Conference, LNCS Springer (S. Gritzalis)

DEXA'2004/TRUSTBUS'04, 1st International Conference on Trust and Privacy of Digital Business, LNCS Springer (S. Gritzalis, C. Lambrinoudakis)

ECAI 04 Workshop on Coordination in Emergent Agent Societies (G. Vouros, K. Stergiou)

ENTER 2004 - 11th International Conference On Information Technology and Travel & Tourism, IFITT's (I. Maglogiannis)

ESORICS’2004, 9th European Symposium on Research in Computer Security, LNCS Springer (C. Lambrinoudakis)

Hellenic Artificial Intelligence Symposium (SETN ’04) (G. Kormentzas, I. Maglogiannis)


International Conference on Computing, Communications and Control Technologies CCCT’04 International Institute of Informatics and Systemics (IIIS) (S. Gritzalis)

IPSI-2004, International Conference on Advances in the Internet, Processing Systems and Interdisciplinary Research (C. Lambrinoudakis)

IST Mobile and Wireless Communications Summit 2004 (I. Maglogiannis)

SAM’04 The 2004 International Conference on Security and Management, CSREA Press (S. Gritzalis)
• The 2004 High Performance Computing & Simulation (HPC&S) Conference in conjunction with the 18th European Simulation MultiConference (ESM 2004) (C. Skianis)

### 4.4.4 International and National Committees

- **Chair, Strategic Committee for the Information Society, Ministry of Justice (2002-2004)** (S. Katsikas)
- **Consulting and preparation of technical documents for the North Aegean Regional Healthcare System to participate in the current open calls of the Information Society Program both at the health sector level as well as the regional level.** (A. Rouskas)
- **Information Systems Advisor at the Ministry of Culture and Sport** (E. Loukis)
- **International Scientific Advisory Board, The Russian Gravitational Society Conferences** (S. Cotsakis)
- **International Scientific Committee, Marcel Grossman Meetings on General Relativity** (S. Cotsakis)
- **Member of the Strategic Planning Unit of the Ministry to the Presidency of Government (main focus in the area information systems in the Greek Public Administration)** (E. Loukis)
- **Member, Comité Europeen de Normalisation (CEN) Technical Committee 251 (Medical Informatics), Working Group 3 (Security, Safety and Quality)** (S. Katsikas)
- **Member, Council of European Professional Informatics Societies (CEPIS) Network on Legal and Security Issues** (S. Katsikas)
- **Member, International Medical Informatics Association (IMIA) Working Group 4 (Security and Privacy)** (S. Katsikas)
- **Member, Monitoring Committee of the “POLITEIA” Programme, Ministry of National Education and Religious Affairs (2001-2004)** (S. Katsikas)
- **Member, Scientific Advisory Committee, Greek Research Network S.A. (2000-)** (S. Katsikas)
- **Member, Special Interest Group on Information Security, Greek Computer Society** (S. Katsikas)
- **Member, Strategic Committee for the Information Society, General Secretariat for Social Security (2000-2004)** (S. Katsikas)
- **Member, Strategic Committee for the Information Society, Ministry of National Education and Religious Affairs (2001-2004)** (S. Katsikas)
- **National Delegate, General Assembly, IFIP (International Federation of Information Processing)** (S. Katsikas)
- **National Representative of Greece in the ‘Telematics for Administration Committee’ (TAC) – Programme ‘Interchange of Data between Administrations’ (IDA)** (E. Loukis)
- **Participation in the specification of TEN/Telecom thematic actions** (I. Maglogiannis)
- **Technical Director of the Operational Program for the Modernization of Public Administration (‘Kleisthenis’) of the 2nd Community Support Framework** (E. Loukis)
4.5 Scientific Output

The number of books, the book chapters and the papers distribution for each year, can be seen graphically in the following bar chart:

### 4.5.1 YEAR 2004

#### 4.5.1.1 BOOKS & CHAPTERS IN BOOKS


4.5.1.2 JOURNAL PUBLICATIONS


4.5.1.3 CONFERENCE PUBLICATIONS


4.5.2 YEAR 2003

4.5.2.1 BOOKS & CHAPTERS IN BOOKS


4.5.2.2 JOURNAL PUBLICATIONS


4.5.2.3 CONFERENCE PUBLICATIONS


27. Politis C. and Dagiuklas T., “Mobility Management Schemes supporting Multimedia Services in All-IP Network Infrastructures”, IFIP HET-NET’03, Ilkley, UK, July 2003


**4.5.3 YEAR 2002**

**4.5.3.1 BOOKS & CHAPTERS IN BOOKS**


4.5.3.2 JOURNAL PUBLICATIONS


9. Loukis, E., Chondrocoukis, G., Factors Affecting the Computerization of Small Industrial Enterprises’, Journal of Information and Optimization Sciences (accepted for publication)


4.5.3.3 CONFERENCE PUBLICATIONS


24. Maglogiannis I. “Automated Segmentation and Registration of Dermatological Images”
The 2002 International Conference on Parallel and Distributed Processing Techniques and Applications June 24-27 2002, Monte Carlo Resort & Casino, Las Vegas, Nevada, USA


5. Remarks

The entire range of educational activities in the department, including the structure of the curriculum, are under a continuous evaluation process, the feedback of which is utilized for improving them, advancing the scientific and research objectives of the department and finally marinating the highest possible standard in the education of its students.

The evaluation in the forthcoming years is expected to be realized in several distinct levels:

- Monitoring international trends and guidelines for the ICT skills and curriculums (every two-three years).
- Evaluation, by the students, of the educational process for each one of the offered courses (per semester).
- Evaluation, by the students, of the entire educational process (yearly).
- Evaluation of the administrative and technical support, as far as the realization of the curriculum is concerned, by both the students and the teaching personnel (yearly).
- Collection of statistical data regarding the student performance per course and per semester.
- Collection of statistical data regarding the preferences of the students to specific groups of courses (directions of study / specializations).
- Collection of statistical data regarding the preferences of the students to option courses.
- Number of students graduating each year, as a percentage of the total number of students in their year.
- The average study period before graduation.
- The comments expressed by the supervisors of the final year projects, concerning the students’ strengths and weaknesses that they have identified.
- The comments expressed by the superiors/collaborators of the students during the period of their “industrial placement” (see Section 3.2).
- Number of graduate students that have not managed to find a job (yearly).

6. Appendix A

- Member, Steering Committee, IFIP Communications and Multimedia Security Conferences (CMS) (S. Katsikas).
- Member, Steering Committee, European Symposium on Research in Information and Communication Security (ESORICS) Conferences (S. Katsikas).
- General Co-Chair, INC 2005, Samos, Greece, 2005 (S. Katsikas).
- Organizing Committee Co-Chair and Program Committee Member, INC 2005, Samos, Greece, 2005 (I. Maglogiannis).
- Member, Technical Programme Committee, IFIP WISE4, Moscow, Russia, 2005 (S. Katsikas).
- Member, Technical Programme Committee, ACM SAC05, Security Track, Santa Fe, USA, 2005 (S. Katsikas, S. Gritzalis).
- Member, Technical Programme Committee, ENTER 2005 - 12th International Conference On Information Technology and Travel & Tourism (IFITT's) Innsbruck, Austria, 2005 (I. Maglogiannis).
- Member, Technical Programme Committee, IFIP TC11 WG11.8 Information Security Education Workshop, Toulouse, France, 2004 (S. Katsikas).
- Member, Technical Programme Committee, 2nd International Conference on Secure Communication and the Internet (SecI2004), Cairo, Egypt, 2004 (S. Katsikas).
- General Chair, 1st European PKI Workshop: Research and Applications (EuroPKI), Samos, 2004 (S. Katsikas).
- Programme Committee Co-Chair, 1st European PKI Workshop: Research and Applications (EuroPKI), Samos, 2004 (S. Gritzalis).
- Member, Programme Committee, 1st European PKI Workshop: Research and Applications (EuroPKI), Samos, 2004 (C. Lambrinoudakis).
- Member, Technical Programme Committee, International Conference on Information and Communications Security (ICICS `04), Malaga, Spain, 2004 (S. Katsikas).
- Member, Technical Programme Committee, Intelligent Networks Conference, Plymouth, UK, 2004 (S. Katsikas).
• Member, Technical Programme Committee, 5th Hellenic Conference on Artificial Intelligence, Samos, Greece, 2004 (S. Katsikas).

• Member, Technical Program Committee, IEEE Intelligent Conf. on Systems, Man, and Cybernetics, Delft, The Netherlands 2004 (G. Vouros).


• Member, Technical Programme Committee, ICETE’2004 International Conference on eBusiness and Telecommunication Networks – Security and Reliability in Information Systems and Networks Track, Setubal, Portugal, 2004 (S. Gritzalis).


• Organizing Committee Chair, ECAI 04 Workshop on Coordination in Emergent Agent Societies, Spain, 2004 (G. Vouros).

• Member, Programme Committee, SETN 2004 (K. Stergiou).

• Member, Programme Committee, ECAI-2004 Workshop on Coordination in Emergent Agent Societies, 2004 (K. Stergiou).

• Member, Organizing Committee, 3rd IFIP–TC6 Networking Conference, Networking 2004 (G. Kormentzas, C. Skianis).

• Chair, 1st International Workshop on Next Generation Networking Middleware (NGNM04), 2004 (G. Kormentzas).

• Member, Technical Program Committee, 1st International Workshop on ‘Next Generation Networking Middleware’ (NGNM04), 2004 (A. Rouskas, C. Skianis).

• Member, Technical Programme Committee, IFIP HET-NET 2004, (T. Dagiuklas, G. Kormentzas, C. Skianis).

• Member, Technical Programme Committee, AIAI-2004 IFIP International Conference on Artificial Intelligence Application and Innovations, Toulouse, France, 2004 (I. Maglogiannis).

• Member, Technical Programme Committee, STDBM 2004: 2nd Workshop on Spatio-Temporal Database Management, Toronto, Canada, 2004 (T. Tzouramanis).

• Member, Organizing Committee, 11th Greek Conference on Relativity and Gravitation, Mytilene, 2004 (S. Cotsakis).
• Member, Technical Programme Committee, International Conference on Information Technology and Communications (ICITC), Cairo, Egypt, 2003 (S. Katsikas).
• Member, Technical Programme Committee, ESORICS 2003, Gjovik, Norway, 2003 (S. Katsikas).
• Member, Technical Programme Committee, IFIP SEC 2003, Athens, Greece, 2003 (S. Katsikas, S. Gritzalis).
• Member, Technical Programme Committee, Intelligent Networks Conference, Plymouth, UK, 2003 (S. Katsikas).
• Member, Technical Programme Committee, International Conference on Information and Communication Technologies in Health (ICICTH), Samos, Greece, 2003 (S. Katsikas).
• Member, Technical Programme Committee, Workshop on Balkan Language Resources and Tools, Thessaloniki, Greece, 2003 (G. Vouros).
• Member, Technical Programme Committee, IST Mobile Summit 2003, (T. Dagiuklas).
• Member, Technical Programme Committee, EVOLUTE WORKSHOP 2003, (T. Dagiuklas).
• Member, Technical Programme Committee, IFIP HET-NET 2003, (T. Dagiuklas, G. Kormentzas, C. Skianis).
• Member, Technical Programme Committee, IEEE ICC 2003, (T. Dagiuklas).
• Invited session on Collaborative Interfaces in the HCI 2003 International Conference, Crete, 2003 (G. Vouros).
• Member, Technical Programme Committee, Intelligent Networks Conference, Plymouth, UK, 2002 (S. Katsikas).
• Member, Technical Programme Committee, European Symposium on Research in Information and Communication Security (ESORICS) 2002, Darmstadt, Germany, 2002 (S. Katsikas).
• Member, Technical Programme Committee, IFIP SEC 2002, Cairo, Egypt, 2002 (S. Katsikas).


• MAS Problem Spaces and Their Implications to Achieving Globally Coherent Behavior. AAMAS ’02, Bologna, 2002 (G.Vouros)